

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

Robert BARRITZ

Serial No.: 09/389,858

Filed: September 2, 1999

For: HARDWARE/SOFTWARE MANAGEMENT, PURCHASING
AND OPTIMAZATION SYSTEM

New York, New York

Date: May 6, 2002

Group Art Unit: 2761

Examiner: Pierre Eddy Elisca



Assistant Commissioner of Patents and Trademarks
Washington, DC 20231

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Technology Center 2100

APPEAL BRIEF UNDER 37 C.F.R. §1.192

Sir:

This appeal is from the Examiner's final rejection of this application.

Real Party in Interest

The real party in interest is the assignee of the present application, namely Isogon Corporation.

Related Appeals and Interferences

The applicant, the assignee and the undersigned attorneys are not aware of any related appeals and interferences which will directly be affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-17 and 19-60 are pending and on appeal herein.

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Status of Amendments

All amendments have been entered, the last amendment being dated October 15, 2001.

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Summary of Invention

The invention in applicant's various claims generally relates to the overall management of the financial costs of ownership of the hardware and software which constitute a "computer data center." A "computer data center" refers (see the opening paragraphs of the present specification) to what is essentially a computer installation consisting of the various processors, CPUs, special controllers, storage devices, printers, monitors and other peripherals. A particular data center can consist of a variety, or a mix of computers and storage devices located in one geographical location or a network of computers and peripherals which are geographically dispersed, which operate as a unified data center unit or installation.

The invention is a modeling system for constructing such a "computer data center". It operates automatically or at least semi-automatically, as well as interactively, so as to predict the "costs of ownership" of a data center. "Costs of ownership" means more than adding up the costs of the various pieces of hardware or software. Rather, the modeling system takes into account the costs of ownership which can include such items or parameters as leasing costs, rental costs, energy costs, maintenance costs and the like, which costs are computed over a predetermined time period.

The system of the invention allows the user thereof to create many different configurations, i.e., what-if scenarios, of the data center, by allowing the user to choose and pick or exchange different pieces of hardware and software to configure the overall computer data center, with the aim of ultimately being able to design a system that meets certain criteria in terms of the delivery of computing/storing power and the costs of operation of the data center.

Thus, the salient feature that characterizes and differentiates the invention in independent claims 1 and 17 is the aforementioned provision of the ability to not only model different pieces of hardware and software, but also to compute the "costs of ownership" thereof.

Independent claim 27 distinguishes over the prior art, even though it does not specifically recite the "cost of ownership" feature. Rather, it introduces the concepts of modeling the elements of a computer data center relative to and by distinguishing between "one location", "one system within the location", "one device group within the system", and "one device within the device group".

Issues on Appeal

Whether Claims 1-17 and 19-60 are rendered obvious under 35 U.S.C. §103(a) over Beck, et al. (U.S. 6,138,139) in view of Li (U.S. 6,144,954), as set forth in the Office Action mailed on July 13, 2001.

Grouping of Claims

The rejected claims can be separated into two groups. The first group consists of independent claims 1 and 17 and their dependent claims, namely, claims 2-16, 19-26, 38, 44, 45, 50, 51 and 55. The second group consists of and includes independent claim 27 and its dependent claims 28-37, 39, 41, 42, 43, 46, 47-49, 52-54 and 56-60. The two groups of claims differ from one another in that the independent claims for the first group also include the costs of ownership aspect and the second group relies on the second feature set forth in the summary of the invention relating to the specific configuration of, and distinguishing between, "one location", "one system within the location," "one device grouped in the system" and "one device within the device group."

Argument

Essentially, it is the applicant's position that the primary Beck reference does not at all relate to or describe the "computer data center", does not at all describe any modeling of such a computer data center, and certainly does not at all consider, disclose or teach the "costs of ownership" calculations aspect of the invention.

The present invention concerns a system for the automatic or semiautomatic modeling or designing of computer data centers.

In accordance with one aspect thereof, the invention is a modeling system that helps or enables the automatic, or at least semiautomatic, and interactive configuring of a computer data center from the perspective of attempting to predict the "costs of ownership" thereof. This terms means more than the adding up the costs of various pieces of hardware or software. It is a modeling system that takes into account the cost of ownership which can include such items or parameters as leasing costs, rental costs, energy costs, maintenance costs, and the like.

The system of the present invention allows the user thereof to create many different configurations, i.e., what-if scenarios, of data centers, choosing and selecting or exchanging

different pieces of hardware and software to configure the overall computer data center, all with the aim of ultimately being able to choose a system that meets certain criteria in terms of the delivery of computing/storing power and cost of operation.

By way of example, claim 1 is directed to "the method for assessing the financial cost of ownership of a configuration of at least one computer data center..."

The method includes: "modeling elements of a data center configuration on a computer by identifying to the computer the elements of a given configuration." Thus, the first step comprises the steps of the operator working through an input device for inputting manually or through an automated tool inputs to select a plurality of elements and how they are intercoupled with one another, e.g., various pieces of hardware or software, to define the data center.

Secondly, a knowledge base contains financial information which includes "...financial information which reflects financial ownership costs of the elements..." "including substantially all of the modeled elements of the given configuration."

The method then operates "correlating software" that correlates information stored in the knowledge base with the elements that have been selected for a particular configuration. Ultimately, the method of the invention produces an output that provides the required information, e.g., the financial costs of ownership.

As noted, all of the claims in the application stand rejected on grounds of obviousness on grounds of Beck et al. (U.S. Patent No. 6,138,139) in view of Li (U.S. Patent No. 6,144,954), and Claim 1 recites a plurality of steps involved in "assessing the financial cost of ownership" of a "computer data center." The computer data center is defined by "a plurality of elements." The steps of method claim 1 implicate "modeling elements" of the computer data center configuration, providing a knowledge base financial information which reflects financial ownership costs of the elements, correlating the information in the knowledge base with the elements of the configuration and outputting information concerning the correlation of the results to a user.

Independent apparatus claim 17 generally tracks method claim 1 and further recites that the financial information is broken down relative to one location, system, device group and device of said configuration, relative to the particular computer data center.

The method recited in claim 27 implicates steps that result in modeling of a computer data center relative to the location, system at the location, a device group within the system and one actual device within a device group.

It has been applicant's position throughout that the cited reference Beck et al. does not at all relate to a computer data center and certainly not to any apparatus or method that is involved in the design or modeling or the examination of what-if scenarios relating to a computer data center. Applicant has further contended that this system of Beck et al. does not at all concern the subject matter of calculating or eliciting costs of ownership of the elements of a particular data center configuration.

Similarly, the secondary reference, Li, is concerned with automation of the development of computer software. It has nothing to do with the modeling of software or hardware elements and certainly has nothing to do with the calculation of costs of ownership thereof.

More specifically, the primary reference, Beck, et al., is not directed to and does not describe a computer data center. Rather, it is concerned with a "multimedia communication center". A multimedia communication center is similar to a telephone switching system, except that it can handle both voice/video information and digital data. The multimedia communications center of Beck, et al., is referred to in the industry as a system that uses CTI (Computer Telephony Integration). See column 1, lines 31-63.

The system described in this reference does not engage in any modeling, let alone modeling of actual hardware or software, in the sense of the present invention. Rather, it is a sophisticated telephone switching system. It handles telephone calls from individuals and computers, including computer-to-computer telephone calls.

Respectfully, none of the text of Beck, et al. referenced in the Office Action so much as hints at the concept of the present invention, which consists of software that enables an operator to identify or specify various pieces of hardware to the computer to then causes the computer to assemble a particular configuration and to consult an existing knowledge base which contains the costs of operation of the various pieces of hardware/software that have been selected for the purpose of arriving at a monetary figure which indicates to a potential user of the data center configuration, the costs of ownership of the particular configuration.

In accordance with claim 1 of the present application, the operator can specify to the computer and the computer returns, the cost of ownership over selected time periods, for example, over six months, or over a certain time of the year, etc.

Beck, et al. does not disclose the foregoing. For example, the text at page 7, lines 1-2 that the Examiner is referencing, merely states that the telephone call handling system of this reference can use a particular arrangement of hardware, such as a CTI processor 22 and a WAN (wide area network) 15 that is connected by a server 21 by a CTI link 24. But the recitation of a particular hardware does not at all reflect a modeling system that is capable of modeling various pieces of hardware, such as one would for a computer data center.

The secondary reference, Li, is concerned with a system for the automatic development of computer software. As the abstract of this reference indicates, it is: "A self-optimizing method and machine that automatically develops computer software in real-time according to a specified performance by computer-generating a knowledge base associated with the computer software, by instantly computer-coding the computer-generated knowledge base into the computer software, and by saving the developed computer software in a software storage device."

Thus, Li describes creating software automatically. It does not model various pieces of software. Indeed, it is not capable of modeling hardware or any type to create a computer data center configuration and certainly neither of the two references has any inkling of, nor discloses the overall combination of the present invention which consists of allowing the user to model the configuration of the elements and the interconnections of a hypothetical computer data center to first create a model of what a computer data center would look like and then gather information from the knowledge base that would enable the computer to thereafter provide to the user a figure of merit in terms of the costs of ownership of the specifically "modeled" computer data center configuration.

Accordingly, it is urged that the present invention is clearly defined over the prior art which nowhere suggests or intimates two key points of the present invention which include modeling of the elements for a computer data center and taking the modeled configuration and correlating it with information in a knowledge base for the purpose of obtaining the financial ownership costs thereof.

The various dependent claims in the application include the limitations of the main independent claims and impose further limitations that set them even further apart from the prior art. Accordingly, they too are patentable over the prior art. See, for example, claim 3. It includes all the limitations of claim 2 and further provides that the modeling and configuration that takes place is defined by reference to at least "one data center location, at least one system within the location and at least one device group with the system and at least one device within the device group". These are terms that are known to computer data center managers who appreciate the specific limitations which they impose on the invention. Nowhere in the prior art is there a discussion of such elements and for good reason. Those references do not deal with the subject matter of constructing or configuring or assembling the components for a computer data center.

In the Final Rejection dated December 4, 2001, the Examiner indicates that the rejection of claims 1-17 and 19-60 over Beck et al. in view of Li is maintained on the same grounds as set forth in the Office Action mailed on July 13, 2001.

In the "REMARKS" in the Final Rejection, the Examiner contends that such limitations as "wherein said associated information stored in said configuration storage includes financial information concerning at least one of the location system, device group and device of said configuration" is disclosed in the Abstract of Beck et al., lines 1-14 "database" in column 8, lines 1-11.

Respectfully, the rejection of record is based on the mere coincidence or occasional use of similar words, for example, the word "database." The terminology "database" is very broadly and widely used in the computer arts. That term has no meaning whatsoever without considering its context. In the Abstract of Beck et al. the word database refers to the storage of information concerning how various parties' and agents' calls should be connected or correlated with one another, it has nothing whatsoever to do with the concept of modeling a data center per say, let alone modeling and storing in a database costs of ownership information as required by the present claims.

Applicant respectfully reiterates that the record of reference simply does not deal with a "computer data center" in the sense, and in accordance with the meaning of the present invention, that it constitutes a computer facility which runs the software programs of an organization in its various formats. A "multimedia communication center" may be, and indeed is, operated by

using a complex of computers, but this computer data center is unique in the sense that it is dedicated to a particular function which is the routing of messages such as voice and data messages.

Examining the teachings of this reference as a whole simply does not disclose that the "multimedia communication center" of this reference is being modeled so as to enable a user to examine various what-if scenarios respecting the selection or the configuring of its various hardware and software elements. Nothing of that ilk or flavor is discussed in this reference. The system of Beck et al. is not a modeling system.

The secondary reference is an automated tool that allows one to design software. As is well known, software consists of a series of computer instructions and related data files and the like, which together are selected and designed and configured to carry out a sequence of an algorithm in a form of sequences of instructions. The present invention does not design software either manually, or automatically. It enables selecting software packages as "elements" of an overall computer data center. Those elements need not be software, as they also constitute hardware "elements." And very importantly in connection therewith, the selected elements are modeled from the point of view of assessing their costs of ownership. Nothing of that flavor is anywhere disclosed or suggested in the prior art of record.

The teaching in Li of a knowledge base, an engine, a knowledge acquisition module and an interface for rapidly generating reliable, low cost knowledge bases, concerns the development of software and its related components. It has nothing to do and, in fact, is not even tenuously connected to the subject matter of the present invention.

Taken as a whole, the combination of the two cited references, regardless of how they are combined, does not lead one to evolve or construct the systems or the methodology that is recited in the Applicant's various claims.

Accordingly, it is respectfully submitted that the Examiner erroneously rejected the claims of record over the cited reference. Thus, the rejection of record should be reversed in its entirety.

Conclusion

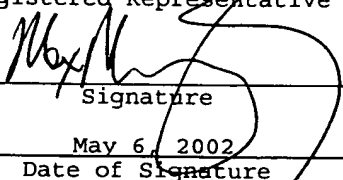
Based on the foregoing remarks, it is respectfully requested that the Examiner's rejections of claims 1-17 and 19-60 be reversed and the application be returned to the Examiner for further handling and ultimate allowance.

Our check No. 9274, which includes the amount of \$160.00 to cover the appeal brief is attached hereto. This brief is being submitted in triplicate in accordance with 37 CFR 1.192 and applicant reserves the right to request an oral hearing upon receipt of the Examiner's Answer.

If this communication is being filed after a shortened statutory time period has elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 C.F.R. §1.136(a), to extend the time for filing the required papers by the number of months which will avoid abandonment under 37 C.F.R. §1.135. The fee under 37 C.F.R. §1.17 should be charged to our Deposit Account No. 15-0700.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Asst. Commissioner for Patents, Washington, D.C. 20231, on May 6, 2002

Max Moskowitz

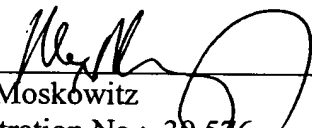
Name of applicant, assignee or
Registered Representative


Signature
May 6, 2002

Date of Signature

MM:eg:mcm

Respectfully submitted,



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Claims on Appeal

1. A method for assessing the financial cost of ownership of a configuration of at least one computer data center defined by a plurality of elements, through the use of systematic, computer assisted procedures, the method comprising the steps of:
 - a) modeling elements of a data center configuration on a computer by identifying to the computer the elements of a given configuration;
 - b) providing in a knowledge base financial information which reflects financial ownership costs of the elements associated with a predetermined class of computers, including substantially all of the modelled elements of the given configuration;
 - c) correlating information stored in the knowledge base with elements of the configuration; and
 - d) outputting at least a portion of the configuration and at least a portion of the associated information to a user.
2. The method of claim 1, including performing the modeling step and the correlating step by means of a substantially automatic software controlled process and said correlating step including calculating the financial ownership costs over selected time periods.
3. The method of claim 2, in which the configuration includes information defining at least one data center location, at least one system within the location, at least one device group within the system, and at least one device within the device group.
4. The method of claim 2, further including altering at least one of a plurality of hardware elements of configuration and substantially automatically recorrelating the altered configuration with information stored in the knowledge base and generating a revised output reflecting the changes to the configuration.
5. The method of claim 2, wherein the modeling step includes modeling software products associated with at least some of hardware elements and the knowledge base includes

financial information reflecting the ownership costs of the software products and the outputting step includes displaying of financial information reflecting the cost of using the software products in conjunction with a selected hardware configuration.

6. The method of claim 2, including storing in the knowledge base, for at least a plurality of software products, financial information which reflects ownership costs of the software products related to hardware elements with which the software products are used.

7. The method of claim 2, including the step of providing in the knowledge base pre-stored lists of hardware elements and enabling a user to select hardware elements for inclusion in the modeling of said data center configuration.

8. The method of claim 2, including the step of providing in the knowledge base pre-stored lists of software products and enabling the user to select software products for inclusion in the modeling of said data center configuration.

9. The method of claim 2, including calculating the present value of the financial ownership costs modeled over selected time periods.

10. The method of claim 2, wherein said financial ownership costs includes the costs of electrical usage by hardware elements of said at least one computer data center.

11. The method of claim 2, wherein said financial ownership costs includes space costs used by hardware components of said at least one computer data center.

12. The method of claim 6, including calculating ownership costs of the software products based on CPU model groups on which the software products are intended to be used.

13. The method of claim 6, including calculating ownership costs of the software products based on MIPS ratings of CPU hardware elements with which the software products are intended to be used.

14. The method of claim 3, including preparing a respective configuration for a plurality of devices within the location and including moving at least one device from one data center configuration to another.

15. The method of claim 3, including enabling the disposition of the device in a manner such that historical records of the device remain stored in the system.

16. The method of claim 3, including enabling calculating the replacement of at least one device within the device group with one or more other devices to show financial and technical ramifications of such replacement without losing original information stored for a given configuration prior to the replacement step.

17. An apparatus for managing at least one of hardware and software elements of at least one computer data center, said apparatus comprising:

- a knowledge base that stores information concerning a plurality of the elements;

- a configuration storage that stores at least one configuration that defines at least one location, at least one system within the location, at least one device group within the system, and at least one device within the device group;

- a correlator that correlates information stored in said knowledge base that is associated with essentially each element of said configuration and stores said associated information in said configuration storage; and

- a display generator that generates a display comprising at least a portion of said configuration and at least a portion of said associated information; and

wherein said associated information stored in said configuration storage includes financial information concerning at least one of the location, system, device group and device of said configuration.

19. The apparatus of claim 17, wherein said associated information stored in said configuration storage includes technical information concerning at least one of the location, system, device group and device of said configuration.

20. The apparatus of claim 17, wherein said associated information stored in said configuration storage includes a summary of financial and technical information of at least one of said location, system, device group and device of said configuration.

21. The apparatus of claim 17, wherein said associated information stored in said configuration storage includes software product information associated with the device of said configuration.

22. The apparatus of claim 17, wherein said associated information stored in said configuration storage includes history information of the device of said configuration.

23. The apparatus of claim 17, further comprising a table generator which generates table information of at least a portion of said associated information for selected ones of said location, system, device group and device of said configuration over a selected time interval; said table information being delivered to said display generator.

24. The apparatus of claim 23, further comprising a chart generator that generates a chart representing the table information for delivery to said display generator.

25. The apparatus of claim 17, further comprising a report generator that generates a report of at least a portion of said configuration and of said associated information over a selected time interval.

26. The apparatus of claim 17, further comprising an editor for editing said configuration and said associated information stored in said configuration storage and for editing the information stored in said knowledge base.

27. A method of managing at least one of hardware and software elements of at least one data center, said method comprising the steps of:

- storing information concerning a plurality of the elements:
- storing at least one configuration that includes at least one location, at least one system within the location, at least one device group within the system, and at least one device within the device group;
- correlating information that is associated with essentially each element of said configuration and storing said associated information; and
- generating a display comprising at least a portion of said configuration and at least a portion of said associated information.

28. The method of claim 27, wherein said associated information includes financial information concerning at least one of the location, system, device group and device of said configuration.

29. The method of claim 27, wherein said associated information includes technical information concerning at least one of the location, system, device group and device of said configuration.

30. The method of claim 27, wherein said associated information includes a summary of financial and technical information of at least one of said location, system, device group and device of said configuration.

31. The method of claim 27, wherein said associated information includes software product information associated with the device of said configuration.

32. The method of claim 27, wherein said associated information includes history information of the device of said configuration.

33. The method of claim 27, further comprising the step of generating table information of at least a portion of said associated information of selected ones of said location, system, device group and device of said configuration over a selected time interval.

34. The method of claim 33, comprising the step of generating a chart representing the table information.

35. The method of claim 27, further comprising the step of generating a report of at least a portion of said configuration and said associated information over a selected time interval.

36. The method of claim 27, further comprising the step of editing said configuration and said associated information and editing the information concerning said device.

37. The method of claim 27, including adding a new location to the configuration, said adding step comprising the steps of: selecting a new location transaction; and entering a name of a new location within said configuration.

38. The apparatus of claim 17, wherein said display generator includes a facility that enters a name of a new location within said configuration.

39. The method of claim 27, including adding a new system to the configuration, said adding step comprising the steps of: selecting a location within said configuration; and entering a name of a new system within said location.

40. The apparatus of claim 17, wherein said display generator further includes means for selecting a location within said configuration, and means for entering a name of a new system within said location.

41. The method of claim 27, further comprising means for selecting a location within said configuration; and means for entering a name of a new system within said location.

42. The method of claim 27, including adding a new device to the configuration, said adding step comprising the steps of:

selecting a desired device type;

selecting the system within said configuration wherein said desired device type is to be added;

adding said desired device type to said system;

assigning a device model to said device type; and

assigning further associated information to the device model.

43. The method of claim 42, wherein said further associated information includes at least one of financial information, technical information, and custom information.

44. The apparatus of claim 17, wherein said display generator includes means for selecting a new device type; means for selecting the system within said configuration where said new device type is to be added; means for adding said new device type to said system; and means for assigning further associated information to said device model.

45. The apparatus of claim 44, wherein said further associated information includes at least one of financial information, technical information, and custom information.

46. The apparatus of claim 17, further including means for selecting a new device type; means for selecting the system within said configuration where said new device type is to be added; means for adding said new device type to said system; and means for assigning further associated information to said device model.

47. The apparatus of claim 46, wherein said further associated information includes at least one of financial information, technical information, and custom information.

48. The method of claim 27, including updating information in the configuration of at least one data center, comprising the steps of:

selecting the device of said configuration that is to be updated;
selecting a portion of the associated information corresponding to the selected device; and
updating the portion of the associated information.

49. The method of claim 48, wherein the associated information includes at least one of financial information, technical information, and custom information.

50. The apparatus of claim 17, wherein said display generator further comprises:
means for selecting the device of said configuration that is to be updated; means for selecting a portion of the associated information corresponding to the selected device; and means for updating the portion of the associated information.

51. The apparatus of claim 50, wherein the associated information includes at least one of financial information, technical information, and custom information.

52. The method of claim 27, including the step moving a device within the configuration of at least one data center, said step comprising the steps of:
selecting the device within the system of said configuration that is to be moved;
selecting another system to which said selected device is to be moved; and
selecting a date that said selected device is to be moved.

53. The method of claim 52, wherein said display generator includes means for selecting the device of said configuration that is to be moved; means for selecting a new system to which said selected device is to be moved; and means for selecting a date on which the selected device is to be moved.

54. The method of claim 27 including the step of disposing of a device within a configuration of at least one data center; said configuration including at least one location, at least one system within the location, at least one device group within the system and at least one device

within the device group; wherein associated information is correlated with each element of said configuration, said disposing step comprising the steps of:

selecting the device within said configuration that is to be disposed; and selecting a disposal date.

55. The apparatus of claim 17, wherein said display generator includes means for selecting a device that is to be disposed from said configuration; and means for selecting a disposal date.

56. The method of claim 27, including modeling proposed changes, said modelling step comprising the steps of:

selecting an existing configuration;

performing at least one modification to said existing configuration; and

selecting a modification date for said modification.

57. The method of claim 56, wherein said at least one modification includes adding at least one device to said selected configuration.

58. The method of claim 56, wherein said at least one modification includes moving at least one device within said selected configuration.

59. The method of claim 46, wherein said at least one modification includes disposing of at least one device within said selected configuration.

60. The method of claim 56, further comprising the steps of generating another proposed configuration, and generating at least one of a table and a chart for comparing the proposed configuration and the another proposed configuration.